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09/967,072	09/28/2001	Jerome R. Bellegarda	004860.P2638	4892

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EXAMINER

SKED, MATTHEW J

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/967,072

Applicant(s)

BELLEGARDA, JEROME R.

Examiner

Matthew J Sked

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,10-13,21-24,32-36,44-47,55 and 56 is/are rejected.
- 7) ☒ Claim(s) 3-9,14-20,25-31,37-43 and 48-54 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/7/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. The objection to the drawings is withdrawn in view of the new drawings received on 4/07/05.
2. Applicant's arguments with respect to claims 1-56 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, 11-13, 22-24, 33, 46, 47 and 56 are rejected under 35 U.S.C. 102(e) as being anticipated by Marchisio (U.S. Pat. 6,862,710).

As per claims 1, 12, 23 and 46, Marchisio teaches a method, apparatus, system and computer-readable medium for generating a database comprising:

generating a latent semantic analysis space from a training corpus of documents representative of a language (generates a term-document matrix based on the electronic document files, col. 6, lines 52-62);

receiving a new document that represents a change in the language (receives a user query that consists of keywords or phrases and parses these phrases to recognize acronyms and word roots hence indicating these queries would be a change in language from the training documents, col. 7, lines 24-35); and

adapting the LSA space to reflect the change in the language (includes the phrases in the term-document matrix hence changing the LSA space, col. 7, lines 42-61).

5. As per claims 2, 13, 24 and 47, Marchisio teaches adapting the LSA space to reflect the change in the language comprises transforming the LSA space to take into account the new document's influence on the LSA space without re-computing the LSA space (includes rows in the term-document matrix of phrases from the user's query hence takes into account the new document without re-computing the LSA space, col. 7, lines 42-61).

6. As per claims 11, 22, 33 and 56, Marchisio teaches the change in the language is a change in the language's style (parses the phrase to recognize acronyms and extracting root words to recognize various tenses and variations of verbiage hence inferring that the change is in the style the user is communicating, col. 7, lines 42-61).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 10, 21, 32 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marchisio in view of Hazlehurst.

Marchisio does not teach the change in language is a change in the language's domain.

Hazlehurst teaches changing a vector space by a change in a new document where the change in language is a change in the language's domain (vector spaces for AIDS and cancer concepts, col. 5, lines 52-60).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Marchisio so that the change in language is a change in the language's domain as taught by Hazlehurst because it allow better recovery of documents when the system is used for multiple domains.

9. Claims 34-36 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marchisio in view of Foltz.

As per claim 34, Marchisio teaches an apparatus for recognizing user queries comprising:

means for recognizing an a new document (receives and parses a user's query, col. 7, lines 24-35);

means for processing the new document using latent semantic adaptation (the user query is processed and added as a new row to the term-document matrix hence

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adapting the LSA space and this process is performed continually for each user query, col. 7, lines 42-61); and

means, coupled to the means for processing, for semantically inferring from a vector representation of the new document which of a plurality of known words and known documents correlate to the new document (returns a list of sorted documents of most relevance to the user, col. 8, lines 29-32).

Marchisio does not teach using this apparatus for recognizing speech, nor where the means for recognizing a new document recognizes an audio input.

Foltz teaches recognizing speech using an audio input (the input into a query based system using LSA, speech-to-text conversion for input, col. 10, lines 2-6).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Marchisio to allow the user to input the query by using an audio input as taught by Foltz because it would allow hands-free use of the system.

10. As per claim 35, Marchisio teaches:

generating a latent semantic analysis space from a training corpus of documents representative of a language (generates a term-document matrix based on the electronic document files, col. 6, lines 52-55);

receiving a new document that represents a change in the language (receives a user query that consists of keywords or phrases and parses these phrases to recognize acronyms and word roots hence indicating these queries would be a change in language from the training documents, col. 7, lines 24-35); and

adapting the LSA space to reflect the change in the language (includes the phrases in the term-document matrix hence changing the LSA space, col. 7, lines 42-61).

11. As per claim 36, Marchisio teaches adapting the LSA space to reflect the change in the language comprises transforming the LSA space to take into account the new document's influence on the LSA space without re-computing the LSA space (includes rows in the term-document matrix of phrases from the user's query hence takes into account the new document without re-computing the LSA space, col. 7, lines 42-61).

12. As per claim 45, Marchisio teaches the change in the language is a change in the language's style (parses the phrase to recognize acronyms and extracting root words to recognize various tenses and variations of verbiage hence inferring that the change is in the style the user is communicating, col. 7, lines 42-61).

13. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marchisio in view of Foltz and in further view of Hazlehurst.

Marchisio and Foltz do not teach the change in language is a change in the language's domain.

Hazlehurst teaches changing a vector space by a change in a new document where the change in language is a change in the language's domain (vector spaces for AIDS and cancer concepts, col. 5, lines 52-60).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Marchisio and Foltz so that the change in language is

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a change in the language's domain as taught by Hazlehurst because it allow better recovery of documents when the system is used for multiple domains.

Allowable Subject Matter

14. Claims 3-9, 14-20, 25-31, 37-43, and 48-54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hull et al. (U.S. Pat. Pub. 2002/0087508A1) and Van Liempd et al. (U.S. Pat. Pub. 2004/0030996A1) teach methods for document retrieval using Latent Semantic Analysis.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J Sked whose telephone number is (571) 272-7627. The examiner can normally be reached on Mon-Fri (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MS
06/14/05



W. R. YOUNG
PRIMARY EXAMINER